

## **ENGINEERING AND RELATED SERVICES**

**February 17, 2006**

**STATE PROJECT NO. 700-36-0185**

**F.A.P. NO. BR-3606(500)**

**MISSISSIPPI RIVER GULF OUTLET BRIDGE**

**ROUTE LA 47**

**ORLEANS PARISH**

Under Authority granted by Title 48 of Louisiana Revised Statutes, the Louisiana Department of Transportation and Development (DOTD) hereby issues a Request for Qualification Statements (RFQ) on Standard Form 24-102 (SF 24-102), "Professional Engineering and Related Services", revised January 2003, from Consulting Firms (Consultant) to perform engineering and related services required for the subject project. **All requirements of Louisiana Professional Engineering and Land Surveying (LAPELS) Board must be met prior to the execution of the contract.** One Prime-Consultant/Sub-Consultant(s) (Consultant/Team) will be selected for this contract.

**Project Manager** – Mr. Ngoan Ngoc Ong, P.E., he may be reached at (225) 379-1500.

### **PROJECT DESCRIPTION**

The selected Consultant/Team will conduct all inspection services for the Mississippi River Gulf Outlet Bridge at New Orleans, to determine the existing condition, and to report their findings. The overall length of the Mississippi River Gulf Outlet Bridge, Structure Number 1480201061, is 6,622 feet. The bridge is on Route LA 47 in Orleans Parish, and consists of three through truss main bridge spans with a total length of 1,248 feet; eleven south approach steel girder spans with a total length of 1,652 feet; eleven north approach steel girder spans with a total length of 1,652 feet; ten south approach concrete girder spans with a total length of 800 feet; ten north approach concrete girder spans with a total length of 790 feet; twelve south approach concrete slab spans with a total length of 240 feet; and twelve north approach concrete slab spans with a total length of 240 feet.

### **SCOPE OF SERVICES**

The selected Consultant/Team will provide all services required to perform an in-depth inspection of the bridge.

The scope of services is more specifically described as follows:

1. A detailed, in-depth field inspection will be performed on all components of the superstructure, and all components of the substructure, above ground or above water, in conformance with the AASHTO Manual for Maintenance Inspection of Bridges.

The field investigation of the bridge will be conducted in a systematic and organized procedure that will be efficient and minimize the possibility of any bridge component being overlooked. Notes must be clear and detailed to the extent that they can be fully interpreted at a later date, when a complete report is prepared. Sketches and photographs will be included in an effort to minimize long wordy descriptions.

The inspection will be conducted to meet or exceed the requirements expressed in the AASHTO Manual for Maintenance Inspection of Bridges, current issues; the United States Department of Transportation Bridge Inspector's Reference Manual, October 2002; and the Louisiana Department of Transportation and Development Bridge Inspection Report, A Guide to Reporting and Rating. All inspection work will be performed by qualified Structural Bridge Inspectors who have successfully completed an FHWA approved comprehensive bridge inspection training course.

An assessment of the coating system will be conducted by a certified Society for Protective Coatings (SSPC) Protective Coating Specialist, or a certified National Association of Corrosion Engineers (NACE) Bridge Coating Inspector, to determine the condition of the existing coating system of the bridge.

Acoustic Emission (AE) monitoring will be performed to re-evaluate the retrofit of cracks in the lower chord of the east truss of the Mississippi River Gulf Outlet Bridge. A separate report for AE will be provided to DOTD, along with the inspection report.

The Consultant/Team will take all necessary precautions, including the maintenance of traffic, to ensure the safety of the traveling public and the inspection personnel. All necessary traffic control, inspection, and bridge access equipment will be provided by the Consultant/Team.

2. A formal, bound bridge inspection report, document of supplemental information including details, photographs, and sketches highlighting problem areas and their evaluation, will be provided in a format proposed by the Consultant/Team, and agreed upon in advance of execution of the inspection by the DOTD.

A separated summary overview of the inspection report will also be provided by the Consultant/Team.

The Consultant/Team will provide five completed reports, and five summary overview reports, in the format previously discussed. All photographs will be in 3 ½" x 5" or 4" x 6" format, reproduced from 35 millimeter color print film. Duplicate reports will also have color photographs. All original negatives will become property of DOTD, even if prints are not used in the report.

Photographs made with a digital camera, having a minimum image resolution of four Mega pixels, will be an acceptable alternative. Digital data will also be provided if a digital camera is used.

All photographs, negatives, and/or digital data will be provided in a pocket at the end of each report.

All field notes will be bound and submitted along with the final bridge inspection report.

The Consultant/Team will also provide an electronic version of the inspection report to DOTD.

The Consultant/Team will update any errors found on the Pontis Structure Inventory and Appraisal Sheet. The Pontis Structure Inventory and Appraisal Sheet will be provided to the Consultant prior to the inspection. Inspection information will be recorded on the Pontis Structure Inventory and Appraisal Sheet by condition state for each element, as per the DOTD Pontis Manual, and submitted to the DOTD so that it can be entered into the Pontis database.

3. DOTD's bridge inspection report form will be completed according to the aforementioned Guide, noting the condition of generally listed bridge components.
4. All deteriorated members will be measured in detail for losses.
5. Roadway slabs, curbs, and barriers will be inspected. All structural components will be inspected. Bearings are to be inspected in-depth, noting location and temperature. Punch marks are to be placed for future inspection reference. All joints will be inspected, measured and marked for future reference. The temperature at the time will also be recorded. Electrical conduit, electrical junction box, navigational light, and aerial obstruction beacons will be inspected. A cursory inspection is to be made of the piers above the ground or water. If any serious problems are detected or suspected as a result of this inspection, a more in-depth inspection will be negotiated as extra work at the discretion of DOTD. No diver's inspection will be made of the underwater portions. Recent soundings of the river in the vicinity of the bridge, when existing, will be made available to the Consultant/Team. Extensive testing or measuring, such as coupon sampling, half-cell corrosion detection, radiographic or ultrasonic crack detection, will not be performed under this contract; but acoustic emissions testing will be performed as per details described under Item No. 11. Sounding concrete and steel connections with inspection hammers, and steel thickness measurements with electronic thickness meters, are typical of what is expected. Deteriorated and deficient conditions discovered during the inspection will be reported, along with recommendations as to the necessity of repair or replacement of structure components.

6. The Consultant/Team Team Leader must be present at all time during the inspection.
7. The inspection is to include the main bridge trusses, the steel and concrete approach girder spans, the concrete approach slab spans, the roadway and its support members, the roadway floor beams, and all other components within the inspected structures.
8. Inspection will be performed by climbing the bridge when it is possible. The Consultant/Team will drop off inspectors, and small tools for inspection, cleaning, visual aid, measuring, etc., at the access areas. A moving lane closure for 10-15 minutes will be allowed. The Consultant/Team will use police officers, with DOTD Work Zone Law Enforcement training, to close the lane for the moving lane closure. When climbing the bridge is not possible, the Consultant/Team will be allowed to close one lane of traffic and use snooper to perform the inspection. Temporary Traffic Control will be as per Standard Details. The Consultant/Team will also be required to use police officers, with DOTD Work Zone Law Enforcement training, in the closed lane.
9. Field inspection of the main bridge trusses will include the following:

The substructures of the main through truss bridge will receive a cursory visual inspection, of those portions above ground or above water. Major cracks and spalls will be noted, but no diver's inspection will be made of the under water portions.

Truss members and truss joints of the through trusses will be inspected in detail for cracks, loose and missing rivets and bolts, corrosion of members, gusset plates, and splice plates. Alignment of members will be checked. Extent of paint protection and corrosion will be noted, and loss of section, if any, will be measured.

Lateral bracing, sway bracing, and wind links will be examined for alignment, corrosion, loose and missing rivets and bolts, collision damage, cracks, etc. Where corrosion is severe, loss of section will be measured. Wind links and wind tongues will be examined for signs of satisfactory recent movement.

Dummy chords will be examined for signs of free movement. A reference system of punch marks will be established, from which measurements will be taken, and to which future measurements should be correlated. Temperature will be noted.

Fixed bearings will be inspected, and expansion bearings will be examined, insofar as possible. Current relative position will be measured, temperature noted, and a system of punch marks established for correlation of future measurements.

Expansion joints in roadways will be inspected, and measurements of opening recorded, along with temperature. Punch marks will be established for correlation of future measurements.

The underside of the roadways, roadway floor beams, roadway stringers and their bearings, and bracing members will be inspected. The inspection will note cracks, loose and missing rivets and bolts, corrosion, loss of section, misalignment, etc.

An inspection of roadways from the top side will be made to evaluate condition of pavement, spalls at joints, handrail condition, and sidewalk condition.

10. Field inspection of the approaches roadway will include the following:

The substructure of the approach spans will receive a cursory visual inspection, of those portions above ground or above water. Major cracks and spalls will be noted, but no diver's inspection will be made of the under water portions.

The underside of roadways, roadway girders, girder bearings, tower floor beams, and bracing members will be inspected. Cracks, loose rivets, corrosion, loss of section, mis-alignment, etc. will be noted and diagnosed.

The top of the roadways will be inspected to evaluate condition of pavement, spalls at joints, handrail condition, and sidewalk condition. Expansion joints will be inspected for signs of recent movement. The opening will be measured, along with temperature, and a system of punch marks established for correlation of future measurements.

11. Acoustic Emission (AE) will be performed to re-evaluate the retrofit of cracks in the lower chord member L15-L16 of the east truss of the Mississippi River Gulf Outlet Bridge. The Consultant/Team will provide access (scaffoldings, snoopers, traffic control, etc...) and all equipment required for performing the AE. A total of seven sites, as selected by DOTD, will be instrumented for AE inspection and/or monitoring. Each site will be instrumented with at least five AE sensors and one strain gauge. Three of these sensors will be set up as guard sensors, and two sensors will be used to collect data. Strain gauge data will be recorded along with the AE data, so that a comparison can be made. Data will be recorded for a period of two hours at each set up during normal traffic. Both AE data and strain gauge data will be permanently stored on the hard drive. Data from each site will be analyzed and reported. Each site will be listed, from worst to best, and if active crack growth is detected, the location of the crack tip will be given.
12. An assessment of the coating system will be conducted.

The selected Consultant/Team will perform such services and will be responsible

for the following:

- a) Physical inspection of the extent of corrosion will be conducted in accordance with ASTM F 1130-99 diagrams for “Overall Extent of Failure” and “Extent within Affected Area”. The type of corrosion must be associated with the rating.
- b) Laboratory tests will be conducted to determine level of lead contained in the coating system, in accordance with ASTM D 3618-85a.
- c) Field tests will be conducted to determine adhesive strength of the existing primer, in accordance with ASTM D 4541-02.
- d) Field tests will be conducted to determine thickness of the existing coating system, in accordance with ASTM D 1186-01.

All Physical inspection, Laboratory tests, and Field tests results will be reported by structure and segment number (segment sequence information to be provided by DOTD)

- 13. Recommendations as to repairs, corrections, and any other maintenance functions will be incorporated into the report where deficiencies and deterioration are reported, and summarized at the conclusion of the inspection report.
- 14. DOTD equipment and personnel will not be available for the Consultant/Team’s use. However, DOTD personnel will be allowed access to all parts of the inspection.
- 15. All Sub-Consultants must have DOTD approval.
- 16. Traffic control operations and procedures, when necessary, will be the responsibility of the Consultant/Team. These operations and procedures will be coordinated through the DOTD’s District 02 Headquarters in Bridge City, LA. Traffic will be maintained at all times. Lane closure will be allowed where necessary to block traffic, with the restriction that no more than one lane of traffic in each traffic direction can be closed at any one time. The Consultant/Team will inform DOTD ten calendar days in advance of the beginning of the inspection, so that DOTD will not issue permits for wide loads (more than 12 foot wide) to use the bridge. The Consultant/Team will provide two electronic messages, one at each end of the bridge, to alert motorist of the ongoing inspection.

A truck with a mounted attenuator will be used to protect personnel and equipment in the closed lane.

- 17. A stand-by boat, for the safety of the inspectors, will be provided in accordance with OSHA.

18. A daily log will be prepared to show the personnel and equipment used, and listing those items inspected in a manner that corresponds with standard nomenclature, as is used on the original plans.

The Consultant/Team will institute a quality control process to assure that all inspection requirements are being met. The quality control process will also be subject to advance approval and audit throughout the program by DOTD

DOTD reserves the right to cancel any part of the above services if funding is not available.

A walk-through for the bridge will be held at **10:00 a.m. CST Wednesday, March 1, 2006**. This is not a mandatory field walk-through, however, all Consultant/Teams, interested in submitting the Qualification Statement, are encouraged to attend this field visit. For additional information, please contact the Project Manager.

### **REFERENCES**

All services and documents will meet the standard requirements as to format and content of the DOTD; and will be prepared in accordance with the latest applicable editions, supplements and revisions of the following:

1. AASHTO Standards, ASTM Standards or DOTD Test Procedures
2. DOTD Location and Survey Manual
3. DOTD Roadway Design Procedures and Details
4. DOTD Hydraulics Manual
5. DOTD Standard Specifications for Roads and Bridges
6. Manual of Uniform Traffic Control Devices (2003 Edition)
7. DOTD Traffic Signal Design Manual
8. National Environmental Policy Act (NEPA)
9. National Electric Safety Code
10. National Electric Code (NFPA 70)
11. DOTD Environmental Impact Procedures (Vols. I-III)
12. Policy on Geometric Design of Highways and Streets
13. Construction Contract Administration Manual
14. Materials Sampling Manual
15. DOTD Bridge Design Manual
16. Consultant Contract Services Manual
17. Geotechnical Engineering Services Document
18. Bridge Inspectors Reference Manual, October 2002

The inspection services will be performed in accordance with the following publications covering bridge inspection standards of practice:

1. Manual for Condition Evaluation of Bridges, American Association of State Highway & Transportation Officials.

2. Bridge Inspector's Reference Manual, October 2002, United States Department of Transportation / Federal Highway Administration.
3. Inspection of Fracture Critical Bridge Members United States Department of Transportation / Federal Highway Administration.
4. National Bridge Inspection Standard, Code of Federal Regulations 23 - Highways, Part 650, Subpart C.
5. Manual for Maintenance Inspection of Bridge, American Association of State Highway & Transportation Officials.
6. Louisiana Department of Transportation and Development Bridge Inspection Report, A Guide to Reporting and Rating.

Manuals listed above may be purchased from the vendors listed below:

**AASHTO Publications**

American Association of State Highway and Transportation Officials  
444 N. Capitol Street, NW, Suite 225  
Washington, D.C. 20001  
Telephone 1-888-227-4860

**FHWA Manuals**

U.S. Government Printing Office  
Washington, D.C. 20402  
Telephone (301) 577-0818

### **COMPENSATION**

Compensation will be a negotiated cost plus fixed fee, with a maximum limitation.

### **CONTRACT TIME**

The Consultant will proceed with the services specified herein after the execution of this contract and upon written Notice-To-Proceed from the DOTD, and will not exceed 180 calendar days, including review time.

### **MINIMUM PERSONNEL REQUIREMENTS**

The following requirements must be met at the time of submittal:

1. At least one Principal of the Prime-Consultant under consideration will be a Professional Engineer registered in the State of Louisiana.
2. At least one Principal or other Responsible Member of the Prime-Consultant will be currently registered in the State of Louisiana as a Professional Civil Engineer.
3. The Prime-Consultant must employ on a full time basis, a minimum of two Professional Civil Engineers registered in the State of Louisiana, including one



- with at least five years experience in bridge design/structural inspection, and a corresponding support staff.
4. The Prime-Consultant must employ on a full time basis, a minimum of one certified Bridge Inspector Team Leader. The team leader must, at a minimum:
- a. Be a registered professional engineer, and have successfully completed a Federal Highway Administration (FHWA) approved comprehensive bridge inspection training course, or;
  - b. Have five years experience in major bridge inspection/evaluation of damaged bridge members, and have successfully completed an FHWA approved comprehensive bridge inspection training course, or;
  - c. Be certified as a Level III or IV Bridge Safety Inspector under the National Society of Professional Engineer's program for National Certification in Engineering Technologies (NICET), and have successfully completed an FHWA approved comprehensive bridge inspection training course, or;
  - d. Have a bachelor's degree in engineering from a college or university accredited by, or determined as substantially equivalent, by the Accreditation Board for Engineering and Technology; and have successfully passed the National Council of Examiners for Engineering and Surveying Fundamentals of Engineering examination; and have two years of bridge inspection experience; and have successfully completed an FHWA approved comprehensive bridge inspection training course, or;
  - e. Have an associate's degree in engineering or engineering technology from a college or university accredited by, or determined as substantially equivalent by, the Accreditation Board for Engineering and Technology; and have four years of bridge inspection experience; and have successfully completed an FHWA approved comprehensive bridge inspection training course.
5. In addition to the above requirements, the Prime-Consultant must also employ on a full time basis, or through the use of a Sub-Consultant(s):
- a. A minimum of one qualified Bridge Inspector who has successfully completed an FHWA approved comprehensive bridge inspection training course.
  - b. One certified Society for Protective Coatings (SSPC) Protective Coatings Specialist or certified National Association of Corrosion Engineers (NACE) Bridge Coating Inspector.
  - c. One acoustic emission Level III Inspector.

### **EVALUATION CRITERIA**

The general criteria to be used by DOTD (when applicable) in evaluating responses for the selection of a Consultant to perform these services are:

1. Consultant's firm experience on similar projects, weighting factor of 3;
2. Consultant's personnel experience on similar projects, weighting factor of 4;
3. Consultant's firm size as related to the estimated project cost, weighting factor of 3;
4. Consultant's past performance on similar DOTD projects, weighting factor of 6;
5. Consultant's current work load, weighting factor of 5;
6. Location where the work will be performed, weighting factor of 4;

Consultants will be evaluated as indicated in Items 1- 6. The evaluation will be by means of a point-based rating system. Each of the above criteria will receive a rating on a scale of 0-4. Then the rating will be multiplied by the corresponding weighting factor. The firm's ratings in each category will then be added to arrive at the Consultant's final rating.

If Sub-Consultants are used, each member of the Consultant/Team will be evaluated on their part of the contract, proportional to the amount of their work. The individual team member ratings will then be added to arrive at the Consultant/Team rating.

DOTD's Consultant Evaluation Committee will be responsible for performing the above described evaluation, and presenting a short list of the three (if three are qualified) highest rated Consultants to the Secretary of the DOTD. The Secretary will make the final selection.

## **CONTRACT REQUIREMENTS**

The selected Consultant will be required to execute the contract within 10 days after receipt of the contract.

**INSURANCE** - During the term of this contract, the Consultant will carry professional liability insurance in the amount of \$1,000,000. The Prime-Consultant may require the Sub-consultant(s) to carry professional liability insurance. This insurance will be written on a "claims-made" basis. Prior to executing the contract, the Consultant will provide a Certificate of Insurance to DOTD showing evidence of such professional liability insurance.

**AUDIT** - The selected Consultant/Team will allow the DOTD Audit Section to perform an annual overhead audit of their books, or provide an *independent* Certified Public Accountant (CPA) audited overhead rate. This rate must be developed using Federal Acquisition Regulations (FAR) and guidelines provided by the DOTD Audit Section. In addition, the Consultant/Team will submit semi-annual labor rate information, when requested by DOTD.

The selected Consultant/Team will maintain an approved Project Cost System, and segregate direct from indirect cost in their General Ledger. Pre-award and post audits, as well as interim audits, may be required. For audit purposes, the selected Consultant/Team will maintain accounting records for a minimum of five years after final contract payment.

Any Consultant currently under contract with the DOTD and who has not met all the audit requirements documented in the manual and/or notices posted on the DOTD Consultant Contract Services Website ([www.dotd.louisiana.gov](http://www.dotd.louisiana.gov)), will not be considered for this project.

### **SUBMITTAL REQUIREMENTS**

One original (**stamped original**) and four copies of the SF 24-102 must be submitted to DOTD. **Inspector's certifications must be included in the SF 24-102.** All submittals must be in accordance with the requirements of this advertisement and the Consultant Contract Services Manual. Any Consultant/Team failing to submit any of the information required on the SF 24-102, or providing inaccurate information on the SF 24-102, will be considered non-responsive.

Any Sub-Consultants to be used, including Disadvantaged Business Enterprise (DBE) Sub-Consultants, in performance of this contract, must also submit a SF 24-102, completely filled out and containing information pertinent to the work to be performed.

The Sub-Consultant's SF 24-102 must be firmly bound to the Consultant's SF 24-102. In Section 9, the Consultant's SF 24-102 must describe the **work elements** to be performed by the Sub-Consultant(s), and state the approximate **percentage** of each work element to be subcontracted to each Sub-Consultant.

Name(s) of the Consultant/Team listed on the SF 24-102, must precisely match the name(s) filed with the Louisiana Secretary of State, Corporation Division, and the Louisiana State Board of Registration for Professional Engineers and Land Surveyors.

The SF 24-102 will be identified with State Project No. **700-36-0185**, and will be submitted **prior to 3:00 p.m. CST on Monday, March 13, 2006**, by hand delivery or mail, addressed to:

Department of Transportation and Development  
Attn.: Dr. Babak Naghavi, P.E., P.H.  
Consultant Contract Services Administrator  
1201 Capitol Access Road, **Room 405-T**  
Baton Rouge, LA 70802-4438 or  
Post Office Box 94245  
Baton Rouge, Louisiana 70804-9245  
Telephone: (225) 379-1989

### **REVISIONS TO THE RFQ**

DOTD reserves the right to revise any part of the RFQ by issuing an addendum to the RFQ at any time. Issuance of this RFQ in no way constitutes a commitment by DOTD to award a contract. DOTD reserves the right to accept or reject, in whole or part, all Qualification Statements submitted, and/or cancel this announcement if it is determined to be in DOTD's best interest. All materials submitted in response to this

announcement become the property of DOTD, and selection or rejection of a submittal does not affect this right. DOTD also reserves the right, at its sole discretion, to waive administrative informalities contained in the RFQ.